

## HEMATOLOGY WAIVERS

### CONDITION: ANEMIA/ACUTE BLOOD LOSS/BONE MARROW DONATION

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**AEROMEDICAL CONCERNS:** Anemia is defined as a decrease in the hemoglobin concentration of whole blood below the lower limit of the normal range. It varies with age and sex. Anemia may arise acutely following blood loss, from decreased red cell production, or from increased destruction (hemolysis), and may be acquired or congenital. The degree of anemia and resultant end organ hypoxia, as well as the underlying disorder that may have been responsible for the anemia both represent major concerns to aviation safety. While most individuals are asymptomatic with whole blood hemoglobin concentrations above 10.0 g./dl. or hematocrits above 30 percent, the clinical manifestations of anemia will vary with the speed of onset and the physical activity of the patient. While there is little data available relating the degree of anemia to aviation activity, individuals with hemoglobin levels less than 12.0 g. /dl., and 11.0 g. /dl., for men and women respectively, are not eligible for flying duty.

Anemia due to acute blood loss becomes manifest in the 72 hours following blood loss as the plasma volume is restored toward normal. The degree of anemia is directly related to the amount of blood acutely lost. The anemia is normocytic and normochromic and is therefore characterized by normal red cell indices and a normal to increased reticulocyte count.

**WAIVERS:** Initial Applicants (All Classes) and Rated Aviation Personnel (All Classes): Anemia resulting from acute blood loss, for reasons other than blood, peripheral stem cell, and bone marrow donation are disqualifying for aviation service. Exceptions to policy or waivers will be granted if the underlying reason for the blood loss is not disqualifying and the anemia is fully resolved. Sports anemia (a mild anemia detected in individuals who are highly athletic) may be classified as Information Only following a full work-up with no other cause for anemia detected.

Acute blood loss (200 ml. or more) due to blood or peripheral stem cell donation requires a temporary grounding period of at least 72 hours. See AR 40-8, Temporary Flying Restrictions Due to Exogenous Factors, August 1976.

Bone Marrow Donation: Aircrew who donate bone marrow are temporarily grounded until the surgical site is healed, any associated discomfort is resolved, and the hemoglobin and hematocrit have returned to within the normal range.

**INFORMATION REQUIRED:** The following clinical and laboratory data is required for an exception to policy or waiver request:

1. Etiology of the acute blood loss and subsequent management of underlying condition.
2. CBC documenting a return of hemoglobin and hematocrit to the normal range.
3. Other laboratory data, radiologic examinations, and consultations as required to document resolution of underlying condition.

**FOLLOW-UP:** Follow-up should be directed to assure continued resolution of the underlying condition. Any occurrence of repeat blood loss must be immediately reported and investigated.

**TREATMENT:** N/A.

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**DISCUSSION:** Recurrence of bleeding must be immediately reported and evaluated. The aviator must be immediately assigned DNIF until evaluation is complete and any further disposition decided.

**REFERENCE:**

Merck Manual, Chapter 27 found online at: <http://www.merck.com/pubs/mmanual/>